IN THE CLAIMS

The current claims follow. For claims not marked as amended in this response, any difference in the claims below and the previous state of the claims is unintentional and in the nature of a typographical error.

1. (Previously Presented) A method of maintaining Synchronization Tracking in Time Division Duplex (TDD) Wireless Communications, the method for use in a terminal of a user equipment (UE) system, wherein the method comprises:

dividing a midamble into two parts, then detecting a first part and a second part of the midamble, respectively;

performing an auto-correlation property operation between the two parts and a part corresponding to a local midamble;

obtaining two peaks from the auto-correlation property operation;

comparing the amplitude of the two peaks; and

advancing or retarding a local timer based on a result of the comparison.

2. (Currently Amended) The method of maintaining Synchronization Tracking in TDD Wireless Communications as set forth in claim 1 wherein a sample frequency of detecting the ~~midable~~ midamble is only one time of a chip rate of a TD-SCDMA system.

3. (Currently Amended) The method of maintaining Synchronization Tracking in TDD Wireless Communications as set forth in claim 1 wherein said ~~midable~~ midamble is divided into two parts having a same length.

4. (Currently Amended) The method of maintaining Synchronization Tracking in TDD Wireless Communications as set forth in claim 2 wherein said ~~midable~~ midamble is divided into an odd part and an even part.

5. (Currently Amended) The method of maintaining Synchronization Tracking in TDD Wireless Communications as set forth in claim 4 wherein a sampling time point for detecting the ~~midable~~ midamble is:

$(n - \Omega)T_c$, when n is even; and

$(n + \Omega)T_c$, when n is odd, wherein

n is a chip location, Ω is a value set lower than one (1), and T_c is a chip period.

6. (Previously Presented) The method of maintaining Synchronization Tracking in TDD Wireless Communications as set forth in claim 4 wherein if a peak amplitude of the even part is higher than a peak amplitude of the odd part, the local timer is advanced by $+ T_c / 16$, and if a peak amplitude of the odd part is higher than a peak amplitude of the even part, the local timer is advanced by $- T_c /16$.

7. (Currently Amended) The method of maintaining Synchronization Tracking in TDD Wireless Communications as set forth in claim 4, wherein when a distance between the UE and a Node-B of a TD-SCDMA system is changed because of movement, the UE makes a decision after comparing an auto-correlation peak of the odd part and the even part in ~~as many as M~~ a plurality of subframes, there can be as many ~~as M~~ comparison results as the plurality of subframes, and if a number of positive results is more than a set value, then the local timer advances ΩT_c, otherwise, the local timer retards ΩT_c, wherein a positive result occurs when a peak amplitude of an even part is higher than a peak amplitude of the odd part.

8. (Currently Amended) The method of maintaining Synchronization Tracking in TDD Wireless Communications as set forth in claim 7 wherein if neither a number of positive or negative results is more than the set value, the local timer remains unchanged, wherein a negative result occurs when a peak amplitude ~~of peak amplitude~~ of an odd part is higher than a peak amplitude of an even part.

9. (Previously Presented) The method of maintaining Synchronization Tracking in TDD Wireless Communications as set forth in claim 7, wherein the set value is $\left\lfloor \frac{M\left(1+\Delta\right)}{2} \right\rfloor$, where Δ is a protection margin.

10. (Previously Presented) The method of maintaining Synchronization Tracking in TDD Wireless Communications as set forth in claim 5, wherein said Ω is lower than one fourth (1/4).

11. (Previously Presented) The method of maintaining Synchronization Tracking in TDD Wireless Communications as set forth in claim 9, wherein said Δ is one tenth (0.1).

12. (Currently Amended) The method of maintaining Synchronization Tracking in TDD Wireless Communications as set forth in claim 1, wherein said ~~midable is the~~ midamble is used to achieve downlink synchronization.

13. (Previously Presented) A terminal of a user equipment (UE) system in Time Division Duplex (TDD) Wireless Communications, wherein the terminal comprises:

a divider for dividing a midamble into two parts;

a dot product unit which performs an auto-correlation property operation between the two parts and a part corresponding to the local midamble to obtain two peaks that correspond to the midamble parts;

a comparator which compares an amplitude of each of the two peaks; and

a local timer which is advanced or retarded based on a comparison of the amplitudes of the two peaks.

14. (Currently Amended) A terminal of a UE system in TDD Wireless Communications as set forth in claim 13, wherein said divider divides the ~~midable~~ midamble into two parts in which each part has the same length.

15. (Currently Amended) A terminal of a UE system in TDD Wireless Communications as set forth in claim 14, wherein said ~~midable~~ midamble is divided into an odd part and an even part.

16. (Previously Presented) A terminal of a UE system in TDD Wireless Communications as set forth in claim 13, wherein said comparator makes a comparison in which: if the peak amplitude of the even part is higher than the peak amplitude of the odd part, the local timer is advanced by ΩT_c, if the peak amplitude of the odd part is higher than the peak amplitude of the even part, the local timer is advanced by $-\Omega T_c$, where said Ω is a value set lower than one (1) , and T_c is a chip period.

17. (Previously Presented) A terminal of a UE system in TDD Wireless Communications as set forth in claim 13, wherein said midamble is used to achieve downlink synchronization.

18. (Previously Presented) A terminal of a UE system in TDD Wireless Communications as set forth in claim 16, wherein said Ω is lower than one fourth (1/4).

19. (Previously Presented) A terminal of a UE system in TDD Wireless Communications as set forth in claim 13 wherein said terminal further comprises a triggering mechanism that comprises a first counter that provides a pulse indication and a second counter that provides a chip location indication.

20. (Previously Presented) A terminal of a UE system in TDD Wireless Communications as set forth in claim 19 wherein said triggering mechanism further comprises a plurality of switches connected to the first counter and to the second counter wherein the plurality of switches operate in response to a pulse indication of the first counter and in response to a location indication of the second counter.